Amendments to the Claims

1 -- 2. (Canceled)

3. (Previously presented) In an optical communication system, a method for swapping control information of a baseband optical signal comprising:

applying, to an optical fiber, a subcarrier multiplexed baseband optical signal, the subcarrier multiplexed baseband optical signal composed of a modulated optical carrier having a payload without control information and a modulated optical subcarrier for control information without payload, the modulated optical subcarrier being at a subcarrier frequency which is separated from the modulation bandwidth of the optical carrier;

separating the modulated optical carrier from the modulated optical subcarrier by

receiving the subcarrier multiplexed baseband optical signal at an input port of an optical circulator,

applying the subcarrier multiplexed baseband optical signal via an extraction port of the optical circulator to an optical filter including a Bragg grating,

optically separating the modulated optical subcarrier in the optical filter and directing the modulated optical subcarrier to an optical energy transducer while reflecting the modulated optical carrier back to the extraction port of the optical circulator, and

outputting the modulated optical carrier to an output port of the optical circulator; and then

applying the modulated optical carrier to an optical modulator adapted for writing new subcarrier modulated control information.

4. (Canceled)

5. (Currently amended) ~~The method according to claim 4 further comprising the step of~~ A method for controlling the propagation path of a baseband optical signal comprising:

applying, to an optical fiber, a subcarrier multiplexed baseband optical signal, the subcarrier multiplexed baseband optical signal composed of a modulated optical carrier having a payload without control information and a modulated optical subcarrier for control information without payload, the modulated optical subcarrier being at a subcarrier frequency which is separated from the modulation bandwidth of the optical carrier;

receiving the subcarrier multiplexed baseband optical signal at the input to a routing element;

extracting the modulated optical subcarrier control information by

receiving the subcarrier multiplexed baseband optical signal at an input port of an optical circulator,

applying the subcarrier multiplexed baseband optical signal via an extraction port of the optical circulator to an optical filter including a Bragg grating,

optically separating the modulated optical subcarrier in the fiber Bragg grating and directing the modulated optical subcarrier to an optical energy transducer while reflecting the modulated optical carrier back to the extraction port of the optical circulator, and

outputting the modulated optical carrier to an output port of the optical circulator;

changing the wavelength of the optical carrier for the payload in response to the control information in a process not including converting said modulated optical carrier to electronic form;

directing the optical carrier for the payload along one of a plurality of output paths from the routing element responsive to the control information; and

modulating the directed optical carrier to add a subcarrier containing new control information.

6 – 7. (Canceled)

8. (Currently amended) In [[a]] an optical communication system, a device for swapping control information [[of a]] comprising:

an optical subcarrier receiver including a fiber adapted to carry a subcarrier multiplexed baseband optical signal, the subcarrier multiplexed baseband optical signal composed of a modulated optical carrier for a payload without control information and a modulated optical subcarrier for control information without payload, the modulated optical subcarrier being at a subcarrier frequency which is separated from the modulation bandwidth of the optical carrier;

an optical circulator having an input port for receiving the subcarrier multiplexed baseband optical signal from the fiber, a bi-directional extraction port and an output port;

an optical filter including a Bragg grating optically coupled to said extraction port of said optical circulator and operative to optically separate the modulated optical subcarrier from the subcarrier multiplexed baseband optical signal and to reflect the modulated optical carrier to the optical circulator; [[and]]

an optical energy transducer optically coupled to receive the modulated optical subcarrier; and

[[a]] means for modulating the modulated optical carrier to add new information contained in a new modulated optical subcarrier.

9 – 14. (Canceled)

15. (Previously presented) The method according to claim 3, further comprising detecting using an output of said optical energy transducer a low-frequency electrical component of said modulated optical subcarrier.

17. (Previously presented) The method according to claim 7, further comprising a low-frequency detection system including said optical energy transducer detecting a low frequency electrical component of said modulated optical subcarrier.

18. (Currently amended) The method according to claim 8, further comprising a ~~lowfrequency~~ low frequency detection system including said optical energy transducer and detecting a low frequency electrical component of said modulated optical subcarrier.

19 – 20. (Canceled)

21. (New) The method of claim 3, wherein said optical modulator is controlled by an electrical signal.

22. (New) The method of claim 5, wherein said modulating step is controlled by an electrical signal.

23. (New) The device of claim 8, wherein said modulating means is controlled by an electrical signal.